



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

BULLETIN
OF THE
TORREY BOTANICAL CLUB.

Vol. XVII.] New York, November 9, 1890. [No. II.

Contributions to Canadian Bryology.—No. 3.*

BY JOHN MACOUN.

Continued from Vol. XVI., p. 90.

GRIMMIA DENSE, Kindb. n. sp.

Diœcious. Plants 2–3 cm. high, densely tufted, coherent, green, at the base brown. Leaves patent, not crisped, muticous (without hairpoint), long-lanceolate, borders reflexed; upper cells short, middle ones sinuous, lower narrower and not sinuous, alar quadrate; costa not winged at back. Capsule elliptical, plicate-rugulose when dry, not costate, yellowish brown, declined upon a 0.6 cm. long, curved and flexuous pedicel; beak long and straight; teeth irregular 2-4-fid. to $\frac{2}{3}$, dark red, patent when dry, annulus large, 3-seriate.

On rocks, summit of Mount Benson, near Nanaimo, Vancouver Island, June 3, 1887. Alt. 3,000 feet.

G. HETEROPHYLLA Kindb. Mss.

On rocks on the mountains between the Nicola and Thompson rivers, at Spence's Bridge, B. C. Alt. 2,500 feet. May 28th, 1889.

GRIMMIA SARCOCALYX, Kindb. Mss.

On rocks on the summit of the mountain between the Nicola and Thompson rivers, at Spence's Bridge, B. C. Alt. 3,500 feet. May 28th, 1889.

GRIMMIA CONCINODONTOIDES, Kindb. Mss.

On dry rocks overlooking the Thompson River, at Spence's Bridge, B. C. Alt. 3,500 feet. May 28th, 1889.

GRIMMIA NIVALIS, Kindb. n. sp.

Tufts blackish, low and compact. Stems denudate below.

*Owing to lack of space we have been forced to omit nearly all species from Prof. Macoun's list except those described as new by Dr. Kindberg.—[Eds.]

Leaves small, short, ovate-lanceolate, acute, muticous or indistinctly piliferous, flat on the borders, the uppermost and the perichetial ones longer and narrower with a smooth and long hair-point; cells quadrate, chlorophyllose, the lower hyaline, short-rectangular; costa percurrent. Inflorescence dioecious. Capsule exserted, wide-mouthed when empty, not rugose nor striate; teeth orange, nearly entire, spreading when dry; lid mammillate; pedicel arcuate, elongate, pale. Differs from *G. plagiopodia* in the longer acute leaves and the pedicel very much longer than capsule.

On rocks on the summit of the Gold Range, north of Griffin Lake, B. C. Alt. 7,000 feet. Aug. 10, 1889.

RACOMITRIUM ROBUSTIFOLIUM, Kindb. n. sp.

Differs from *R. Macounii* in the leaves being less crispate, pelucid, more reflexed on the borders, often furnished with a short hairpoint. Capsule oval, striate or plicate when dry; teeth dark purple-brown, deeper cleft, papillose; the beak of the lid *oblique*, needle shaped, very much shorter than the capsule; pedicel slightly curved.

Both these species differ from *R. varium* in the short pedicel and the longer leaves.

Mount Arrowsmith, Vancouver Island, alt. 5,700 feet, July 17, 1887.

RACOMITRIUM BREVIPES, Kindb. n. sp.

Habit of *R. heterostichum* or *R. canescens*. Plants dirty green; branches nodose with numerous short branchlets. Leaves very faintly papillose, ovate-lanceolate, long-acuminate, more or less revolute, hair-point long and rough; cells yellow, the upper short or elongate, the alar distinctly quadrate. Capsule small, oblong-cylindrical with a short oblique beak; pedicel short, 0.5 cm. Peristome not examined.*

On sloping garnetiferous rocks near the summit of the Gold Range, north of Griffin Lake, British Columbia; alt. 6,700 feet. Aug. 8, 1889. Coll. John Macoun. No. 395, Canadian Mosses. *Var. ericoides*, B. and Sch. (Bry. Eu. t. 271).

On rocks at Victoria, Vancouver Island, and at Hastings and North Arm Burrard Inlet, B. C., 1889.

VAR. MUTICUM, Kindb. n. var.

Leaves without a hair-point; cells yellow; costa absent. Barren. On rocks summit of Gold Range, at Griffin Lake, B. C. Aug. 1889.

Scouleria Nevii, C. Mull.

S. aquatica, var. *nigrescens*, Kindb., BULLETIN, xvi. 94.

Abundant on stones in mountain brooks at Sicamous and Griffin Lake, B. C., 1889.

ENCALYPTA LEIOCARPA, Kindb. n. sp.

Habit of *E. streptocarpa*. Monœcious. Tufts large, densely radiculose and fuscous below; the young shoots dark green. Upper leaves patulous, when dry incurved, from a diaphanous base lingulate, obtuse, muticous; lower leaves suberect; costa scabrous at back, not excurrent; perichetial bracts not acuminate, perigonial thick-apiculate. Capsule pale, cylindric, not striate, sometimes with a short apophysis; peristome simple; teeth sublinear, papillose, orange and erect; seta red. Calyptra papillose for its whole length, reaching below the capsule, not fringed, dusky yellow.

On rocks summit of Mount Queest and other mountains in the Gold Range, B. C. Alt. 6,500 feet. August 8, 1889.

Webera albicans, Schimp., var. DEFLEXA, Kindb. n. var.

Differs in the leaves revolute nearly all around, the peristome pale yellow, the lid lower.

On the borders of rich woods, Vancouver Island; also Salt Spring Island, Gulf of Georgia. May 10, 1887.

VAR. MACROSPORA, Kindb. n. var.

Leaves denticulate to the middle; costa excurrent. Spores large, about 0.03 mm.

On the mountains north of Griffin Lake, Gold Range, B. C. Alt. 6,500 feet. August 10, 1889.

Bryum Breidleri, Jur. Mountains north of Griffin Lake in the Gold Range, B. C.

This species and *Webera gracilis* were growing in great profusion where snow had just disappeared. August 10, 1889.

BRYUM DENTICULATUM, Kindb. n. sp.

Differs from *B. pseudotriquetrum* in the leaves being loose, distantly denticulate to the middle, lanceolate-acuminate, reflexed at the base.

In a bog, Roger's Pass, Selkirk Mountains, B. C. August 21, 1885.

B. Donianum, Grev. (Linn. Trans. xv. t. 3).

Allied to *B. capillare*, but differing in the leaves being near

the top of the branches, short-acuminate, slightly or shortly mucronate, the capsule slightly curved, the inner peristome not higher than the outer in a dry state, the spores smaller, about 0.01 mm. long or less.

On rocks at Hastings, B. C. April 11, 1889.

B. hydrophilum, Kindb. Read for *B. hydrophyllum*, BULLETIN, xvi. 95.

B. obconicum, Hornsh. sub-sp. CONSTRICTUM, Kindb. n. sub-sp.

Stem higher; leaves green, larger, narrow-margined above; costa reddish, long-excurrent; capsule larger, constricted below the mouth; spores very small, 0.01 mm. long.

Swamp in the Columbia River Valley at Donald, B. C., July 8th, 1885.

B. pallescens, Schleich., var. LAXIFOLIUM, Kindb. n. var.

Leaves loose, not glossy, long and narrow; upper cells narrow; spores small, about 0.01 mm.

Kananaskis Pass, Rocky Mountains, in damp woods. June 23, 1885.

Var. LONGIFOLIUM, Kindb. n. var.

Leaves dense, glossy, very long-attenuate; upper cells narrow; spores small.

On wet gravelly soil at Morley, Rocky Mountains. June 13, 1885.

B. PERCUMCENTINERVE, Kindb. Mss.

On dripping rocks in a ravine just west of Kamloops, B. C. June 18, 1889.

B. Rauii, Aust. On wet earth at Agassiz, B. C. 1889.

Dr. Kindberg says of this species that it is quite distinct from the European *B. Muhlenbeckii* to which it was referred by Lesquereux and James.

Mnium medium, Br. & Sch., sub-sp. ROBUSTUM, Kindb. n. sub-sp.

Leaves larger than the species, ovate-oblong, more densely denticulate, broadly yellow-margined, the comal scarcely larger than the middle ones; costa yellow. Capsules clustered, 2-4, pale, lid higher, conical, short-apiculate; pedicel shorter than the stem.

On logs and rocks in shaded woods near Victoria, Vancouver Island. June 11, 1887.

ATRICHUM (CATHARINEA) LEIOPHYLLUM, Kindb. n. sp.

Plants erect, simple, naked below, densely foliate above. Leaves smooth, lower very small, upper lanceolate and acute-cuspidate, not margined, the base scarcely broader; borders sharply serrate, with large teeth, the basal only entire; basal cells narrow, the others round-hexagonal, all pellucid; costa percurrent; lamellæ 6, disappearing below the apex, entire or slightly crenulate. Capsule single, long, sub-cylindric, thicker below, slightly curved, constricted at the mouth; lid obliquely rostrate from a conic base; perichetial leaves long-cuspidate with excurrent costa; pedicel bright red. Diœcious.

In damp woods on the lower slopes of Mount Arrowsmith, Vancouver Island. July 18, 1887.

ALSIA MACOUNII, Kindb. n. sp.

Loosely cæspitose, bright green. Secondary stems pinnately divided, branching from the middle; branches crowded, single or rarely pinnate, obtuse, not circinate when dry. Leaves involute above, papillose-dentate at the back, branch-leaves imbricate open-erect, five-ranked, ovate, or oblong obtuse, reflexed below, serrulate above the middle; cells oval-oblong and pellucid, the alar smaller and obscure, sub-quadrate; costa percurrent; upper perichætial leaves sheathing, filiform-acuminate, capsule red, plicate-rugulose, oval-oblong, longer than the pedicel; teeth trabeculate, yellowish inside, papillose; cilia short and smooth; annulus simple, adhering at the long-rostrate lid. Diœcious.

This species is by Lesquereux confounded with the true *Alsia abietina*, by others with *Alsia Californica*. On trees at Sooke, Vancouver Island and on Salt Spring Island; also on rocks at Yoll, B. C. May 17, 1875.

Neckera Douglasii, Hook., var. MACOUNII, Kindb. n. var.

(*Neckera Macounii*, Kindb. enumer. bryin. exotic).

Differing principally in the leaves less attenuate and the capsule turgid oval, completely exserted on the long pedicel (not "narrow, half-exserted").

On large boulders between Cathedral Mountain and Mount Stephen, Rocky Mountains; also on trees at Hastings, B. C. and Comox, Vancouver Island.

ANTITRICHIA TENELLA, Kindb. n. sp.

Tufts loose, green; secondary stems irregularly divided; branchlets numerous, the greater number very short. Leaves small, sub-patent or loosely appressed when dry, ovate-acute or

short-acuminate, dentate at the apex, not striate, reflexed to the apex; the greater number of cells short, the inner and middle narrow; costa with 1-2 accessorial branches at the base, disappearing below the apex; perigonal leaves elongate. Diœcious. Female plants unknown.

Amongst *Racomitrium varium* on rocks below the railway bridge over the Nanaimo River, Vancouver Island. April 26, 1887.

PLATYGYRIUM RUPESTRE, Kindb. n. sp.

Plants intricate, cæspitose, pale brownish-green, not glossy. Stems irregularly divided, branchlets short, filiform, not creeping. Leaves small, densely crowded, when dry appressed, open-erect when moistened, scarious and pellucid, not chlorophyllose nor papillose, subovate, acute or long-acuminate, the upper denticulate above, the borders recurved below, sometimes to the middle or above it; areolation in the lower leaves sublinear above, looser at the base, in the upper leaves looser, oblong-linear, in all subquadrate at the borders and at the base; costa none. Diœcious.

The generic position of this plant collected only in a barren state is not yet certainly defined.

On the face of a cliff above the first tunnel at Yale, B. C. May 17, 1889.

HOMALOTHECIUM CORTICOLA, Kindb. Mss.

Cedar Hill near Victoria, Vancouver Island. April 21, 1887.

PSEUDOLESKEA SCIUIROIDES, Kindb. n. sp.

Macounia sciuiroides, Kindb. enumer. bryin. exot., 1888.

Diœcious. Stems creeping, loosely tufted, irregularly branching. Branches attenuate and incurved; paraphyllia filiform or subulate. Leaves from the ovate base attenuate to a long denticulate point, reflexed on the borders, recurved or straight not striate, most of the cells oblong; costa stout, percurrent. Perichetial leaves ovate-oblong, abruptly attenuate to a filiform or subulate point, not reflexed on the borders; areolation narrower; costa thinner, disappearing below the point. Capsule oblong, suberect or inclined, not striate; pedicel 1-5 cm. long. Spores 0.02 mm. Lid and calyptra unknown. Peristome orange-colored; teeth densely articulate with indistinct longitudinal line, subulate and hyaline-bordered, when dry incurved; segments scarcely shorter or narrower, pertuse in the middle; basilar membrane very short; cilia smooth.

On rocks in the valley of Elk River, Rocky Mountains, B. C., 1883. Dr. G. M. Dawson coll.

PSEUDOLESKEA OLIGOCLADA, Kindb. n. sp.

Allied to *Pseudoleskea atrovirens*. Tufts loose, dark brown, sparingly radiculose. Secondary stems sparingly branched; branchlets distant, short and julaceous; paraphyllia numerous. Leaves appressed when dry, falcate when moist, reflexed on the borders, abruptly attenuate from the short ovate base to the longer, sub-entire acumen, not striate; cells not confluent, short with incrassate walls, oblong-quadrate, only the uppermost narrow; costa stout and very long; perichetial leaves longer, acuminate, scarcely reflexed on the borders; cells narrower; archegonia 10-12, paraphyses few, shorter. Dioecious. Capsules and male plants unknown.

On damp rocks, Mount Benson, Nanaimo, Vancouver Island, June 8, 1887.

M. Cardot believes that this plant is a variety of *Pseudoleskea atrovirens*.

THUIDIUM (CLADOPODIUM) LESKEOIDES, Kindb. n. sp.

Plants very small; tufts intricate, green, not glossy; stems filiform, irregularly divided, without paraphyllia; branches not attenuate, rootless. Leaves small, loose, erect-spreading, ovate-oblong, acute or short-acuminate, very papillose, not pellucid, erect on the borders, serrate all around; cells rotundate, the alar scarcely distinct; costa percurrent. Barren. Habit of *Heterocladium heteropterum*.

On rocks at Cedar Hill, Vancouver Island, April 21, 1887.

THUIDIUM VANCOUVERIENSE, Kindb. n. sp.

Plants minute, densely and irregularly pinnate, sparingly radiculose, rarely flagelliferous, dark green, not glossy; branches short, very slender. Leaves ovate-deltoid, denticulate above the middle, pellucid, faintly papillose; stem leaves decurrent, at the base reflexed, acute; branch leaves smaller, looser, more concave, oval and obtuse; cells hexagonal-oval, or rhombic, the alar and marginal quadrate-rhombic; costa slender, short, scarcely reaching to the middle. Paraphyllia few or none. Perichetial leaves longer acuminate, cells narrower. Capsule small oblong, sub-erect; pedicel 1 cm. long. Dioecious.

On rocks on the upper slopes of Mount Finlayson, at Goldstream, Vancouver Island, May 31, 1887.

Camptothecium hamatidens, Kindb., var. TENUE, Kindb., n. var.

Branches longer, filiform, leaves smaller only at the base and hooked-denticulate at the apex. On rocks, Mount Erskine, Salt Spring Island, Gulf of Georgia, May 10, 1887.

BRACHYTHECIUM PSEUDO-ALBICANS, Kindb. n. sp.

Differs from the true *B. albicans* (Neck.), in having the leaves looser, sub-distichous, shorter-acuminate, faintly striate, denticulate all around; the alar cells greater, all the basal cells finally reddish. Barren.

No. 235 Canadian Musci in part. On the sand spit and in woods on the ground at Comox, Vancouver Island, May 5, 1887.

BRACHYTHECIUM LÆVISETUM, Kindb. n. sp.

Habit of *B. populeum*. Plants caespitose, green and glossy. Stem irregularly ramulose. Leaves close, sub-erect, open, ovate-lanceolate acuminate and acute, sulcate; borders serrulate from the middle upwards; basal cells dilatate; costa long, reaching at least to two-thirds. Capsule small, incurved, oblong; outer teeth hyaline-margined, light brown, cilia short and not appendiculate; perichetial leaves nerveless; lid highly convex not apiculate; pedicel very smooth. Monœcious.

In small quantity on a rotten log in the valley of Eagle River, Craigallachie, Gold Range, British Columbia, July 17, 1889. Coll. J. Macoun. No. 326, Canadian Mosses.

ISOTHECIUM CARDOTI, Kindb. Mss.

On the base of trees in the open woods, Hastings, B. C., also on logs near Victoria, Vancouver Island. A very beautiful species.

ISOTHECIUM MYURCELLUM, Kindb. n. sp.

Tufts very loose, dark green, not glossy. Stems creeping; branches (secondary stems) erect, tree-like and ramose; branchlets curved, attenuate. Leaves of the branchlets appressed when dry, small, ovate, blunt or short acuminate, twice serrate or denticulate all around, smooth, scarcely reflexed on the borders; alar cells round-quadrate, the middle ones narrow, upper rhombic; costa long, three-fourths the length of the leaf. Perichetial leaves nerveless, oblong with a long, denticulate, horizontally patent acumen and narrow cells. Capsule oval-oblong, inclined; segments with a low basilar membrane and two short cilia; annulus double; lid conical acuminate; pedicel smooth. Diœcious.

On decaying logs in woods around Victoria and at Nanaimo River, Vancouver Island, April 26, 1887.

EURHYNCHIUM DAWSONI, Kindb. n. sp.

Stems densely pinnate, not or rarely radiculose; branchlets patent. Leaves green or brownish, not glossy, not or indistinctly papillose, not long acuminate from the broad ovate base, re-

curved on the borders below, long-decurrent, open-erect, denticulate all around, areolation variable, often sub-rhomboidal; costa thick, reaching nearly to the apex. Probably dioecious.

Allied to *E. hians* and *E. Sullivantii*.

On rocks along the Nanaimo River below the Railway Bridge, Nanaimo, Vancouver Island, April 27th, 1887.

Plagiothecium sylvaticum, var. *SQUARROSUM*, Kindb. n. var.

This is a distinct variety, presenting a squarrose appearance when dry. On earth at Hastings, Burrard Inlet, B. C., April 27, 1889.

PLAGIOTHECIUM (*ISOPTERYGIUM*) *BIFARICELLUM*, Kindb. n. sp.

Plants small, sparingly radiculose, loosely cespitose, dark or blackish green, not glossy. Stems rigid pinnate. Leaves loose, small, spreading, smooth and not striate; stem-leaves at the base broadly ovate-cordate, decurrent, serrulate all around, abruptly attenuate to the filiform, hooked-deflexed and sub-entire acumen; cells narrow, linear, the basal oblong; costa obsolete or reaching to the middle. Dioecious.

Wet places in woods at Comox, Vancouver Island, May 3, 1887.

A. serpens, L., sub-species *COLUMBIÆ*, Kindb. n. sub-sp.

Leaves loose, spreading, serrulate all around, costa longer.

On earth in woods at Sicamous, B. C., July 19, 1889.

HYPNUM (*CAMPYLUM*) *MACOUNII*, Kindb. n. sp.

Allied to *Hypnum hispidulum*. Habit of the European *H. Halleri*. Monoecious. Plants small, interlaced in dense brownish-green tufts. Stems pinnate, prostrate, sparingly radiculose. Leaves densely crowded, squarrose-recurved, round-deltoid, short-acuminate, reflexed on the borders of the entire base to the denticulate acumen; alar cells quadrate, pellucid, not numerous, the other short oblong or short lanceolate; costa obsolete or none. Capsule small narrow-cylindrical, slightly curved, annulus simple; basilar membrane low; lid convex, obtuse and not apiculate; pedicel reddish-brown, smooth 2 cm. long.

On earth by springs at Mount Stephen on the Canadian Pacific Railway, Rocky Mountains. Alt. 5,600 feet. July 28, 1885.

Hypnum (*Campylum*) *Sommerfeltii*, Myrin.

On the bases of trees at Hastings and Griffin Lake in the Gold Range, B. C., 1889.

H. (HARPIDIUM) LONGINERVE, Kindb.

In BULLETIN, xvi. 97, this species is described as *Dichelyma longinerve*. Later examinations have shown it to be a true *Harpidium*.

H. (Rhytidium) robustum, Hook.

Very abundant on the slopes of Mounts Benson and Arrow-smith, Vancouver Island. This is the plant upon which Austin founded *Hylocomium Flemmingii*. He saw neither flowers nor fruit. It was fruiting abundantly in 1887.

H. subimponens, Lesq., var. CRISTULUM, Kindb. n. var.

Hypnum cristulum, Kindb. enum. bryineæ. exot., 1888. Intermediate between *H. fertile* and *H. crista-castrensis*. Stems regularly pinnate, rootless. Leaves green or brownish-green, estriate, filiform-pointed, the point a little shorter than the lanceolate base. Capsule yellow, cylindric narrow, faintly curved, sub-erect; teeth at the base pale yellow, hyaline above; perichetial leaves faintly striate. Probably diœcious.

Quite common on rocks in oak woods around Victoria, Vancouver Island, April 17, 1887.

HYPNUM (DREPANIUM) CANADENSE, Kindb. n. sp.

Intermediate between *H. imponens* and *H. subimponens*. Diœcious. Densely cæspitose, yellow or pale green. Stems creeping, densely pinnate-ramulose; branches robust, thick and tumid. Leaves close, falcate, with elongate-ovate or oblong base and short acumen, faintly or not striate, more or less denticulate all around, not reflexed on the borders, larger than in *H. imponens*; cells very narrow, the alar (one or two) large and pellucid, the other basal cells yellow; paraphyllia few, subulate. Perigonial leaves very broad-ovate, abruptly narrowed to a straight subulate point.

No. 314 Canadian Mosses. On rotten logs at the summit level of the Canadian Pacific Railway, near Hecton, Rocky Mountains. Alt. 5,300 feet. July 23, 1885.

H. (LIMNOBIUM) PSEUDO-ARCTICUM, Kindb. n. sp.

Differs from *H. arcticum* in the leaves being crenulate at least above the middle; costa short and double, not reaching to the middle; perichetial leaves short-acuminate, serrulate. Inner peristomal teeth rimose in the middle. Stem sparingly rooting.

On stones in mountain brooks near Sicamous; and in brooks on mountains north of Griffin Lake, B. C., July 8, 1889.